26 year analysis of street tree maintenance budgets, subsidence claims and costs

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Presentation content:

- Where is Camden & background
- Context for carrying out the analysis
- Analysis: budgets, claim numbers & costs
- Fell & replacement programme
- ‘Small’ tree planting analysis & tree diversity
- Conclusion

Where is Camden?

Numbers of Council trees in Camden:

- 9,500 street trees
- 4,600 park trees
- 11,500 trees in social housing sites
- 1,500 trees in education sites
- 28,0000 trees ‘actively’ managed
- 5 to 10,000 managed trees in nature conservation sites

Street tree inspection & maintenance regimes:

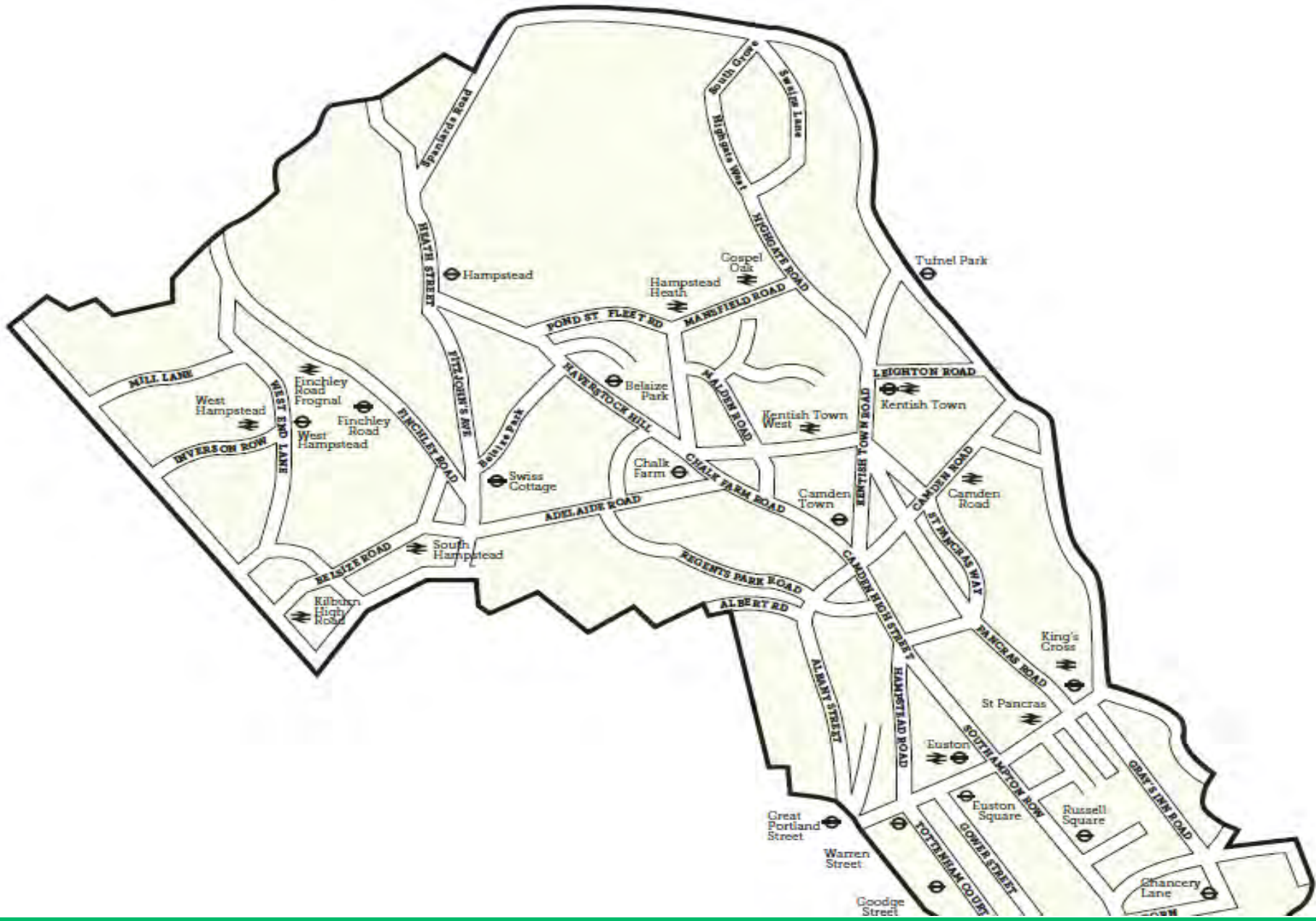
- Main 3 year cycle of inspection & maintenance
- Biennial ‘pollarding’ programme
- Biennial regime for epicormic (basal) growth
- Additional ‘risk’ programme of work


GREENWOOD
Greenwood


KV09 VRP

Tree related subsidence damage to property:

- Tree within the rooting influence of a property
- Shrinkable London clay soil
- The trespass of tree root (re: common law)
- The tree extracting soil water from the clay over and above seasonal movement (winter/summer)
- Action of tree roots results in damage to building
- Causation established, a claim for damage follows - £££££££££££


Spaniards Road
South Grove
Highgate West Hill
Swain's Lane
HEATH STREET
Hampstead
Gospel Oak
Hampstead Heath
HIGHGATE ROAD
Tufnel Park
POND ST
FLEET RD
MANSFIELD ROAD
LEIGHTON ROAD
MILL LANE
Finchley Road Frognal
West Hampstead
Finchley Road
West Hampstead
WEST END LANE
FINCHLEY ROAD
FITZJOHN'S AVE
Belsize Park
Belsize Park
HAVERSTOCK HILL
MAIDEN ROAD
Kentish Town West
Kentish Town
CHALK FARM ROAD
Chalk Farm
Swiss Cottage
Camden Town
CAMDEN ROAD
Camden Road
ADELAIDE ROAD
South Hampstead
REGENT'S PARK ROAD
ST PANCRAS WAY
BELSIZE ROAD
Kilburn High Road
ALBERT RD
CAMDEN HIGH STREET
King's Cross
PANCRAS ROAD
St Pancras
ALMANY STREET
HAMPSTEAD ROAD
Euston
SOUTHAMPTON ROW
Euston Square
Russell Square
GRAY'S INN ROAD
Great Portland Street
Warren Street
TOTTENHAM COURT
GOWER STREET
Chancery Lane
Goodge Street

Overview of tree planting in Camden:

- Over 70 years ago – London Plane, Limes, Elm, Maples (in the more wealthy parts of the borough)
- Over 40 years ago - National tree planting initiative in 1973 & 1974?
- *Over 30 years ago - London Plane, Limes, Maples, Silver Birch, Silver Maple, Ash, Pyrus and Sorbus & Malus* cultivars *(large scale planting schemes borough wide)*
- *10 to 20 years ago – generally replacement trees were like for like due to lack of staffing resources*
- During the last 10 years – increasing emphasis on the 'right tree for the right site'

Why carry out the analysis?

- *'Justify' tree maintenance budgets based on '**fact & figures**'*
- 2008/9, Council financial cuts of £96m (over 3yr period)
- 2014/15, further cuts of £70m (over 3yr period)
- From 2017/18, possible cuts in the region of 10m to 40m
- *How can we improve Camden's urban forest based around risk, sustainability, diversity and resilience?*

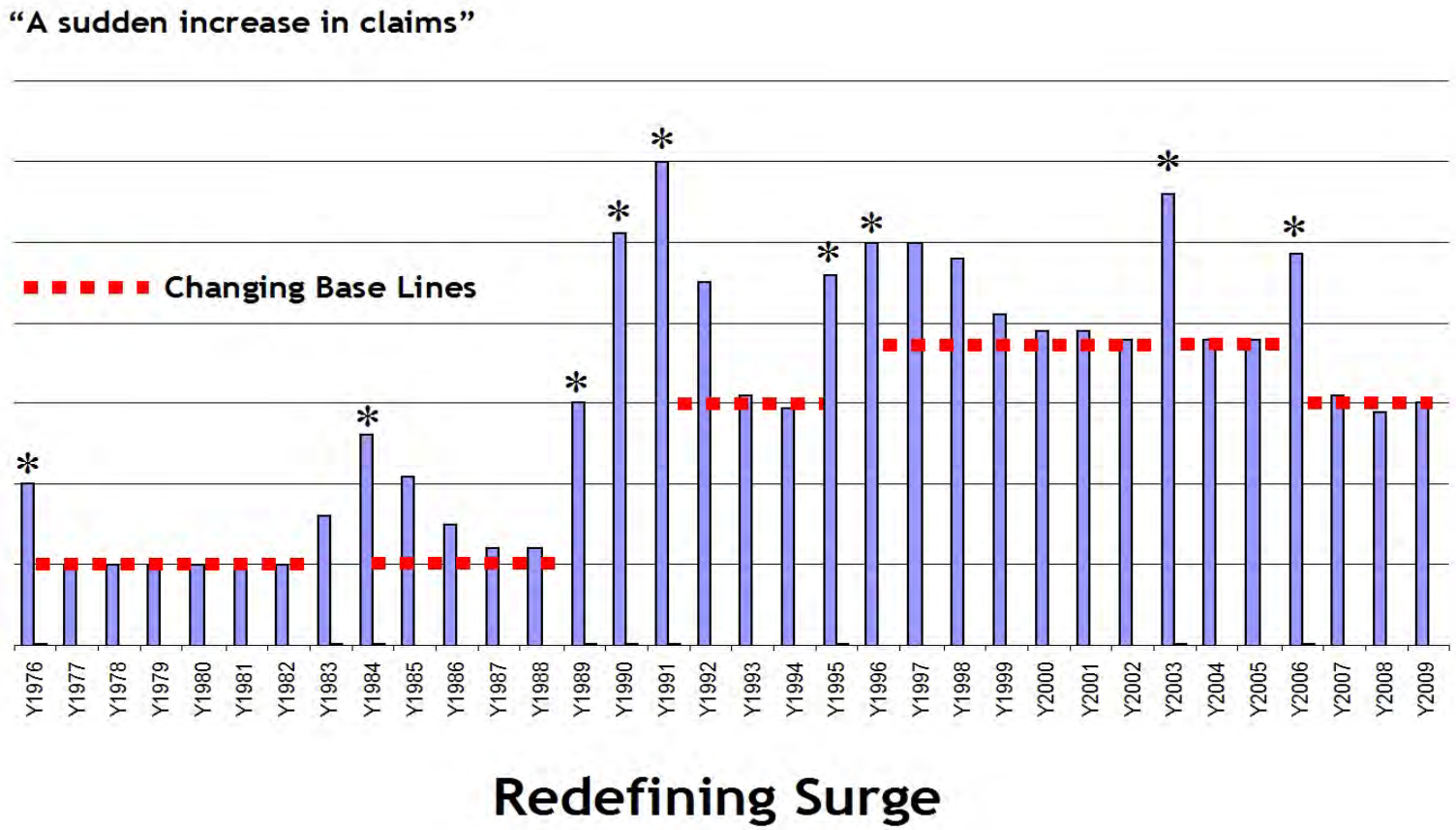
Information gathered for analysis:

- **Historic management reports:**
  Budget information going back to 25yrs

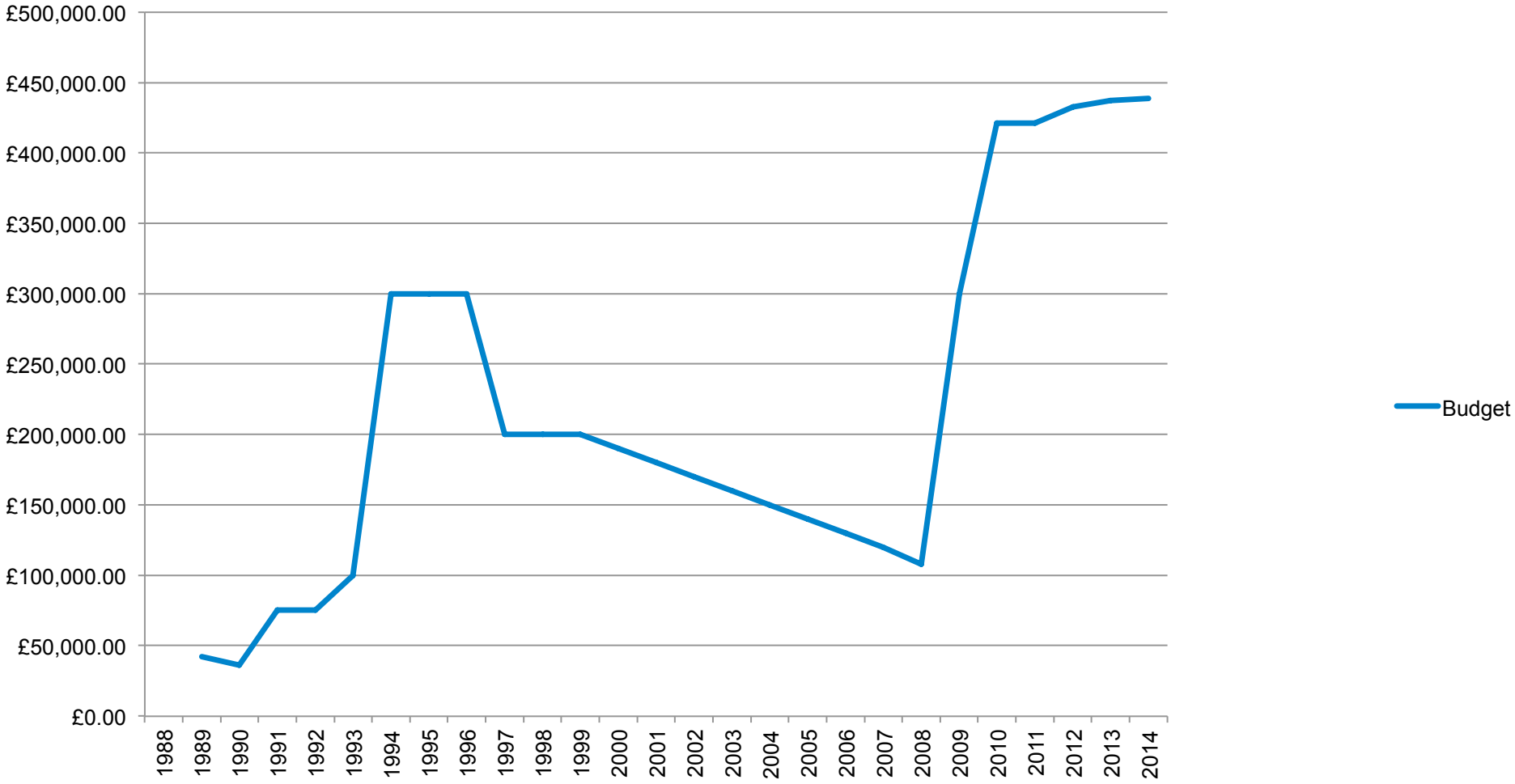
- **Data base:** Confirm Arboriculture:
  Maintenance budget information
  Tree planting information
  Species information

- **Insurance database**: LACHS database
  Claim numbers & related costs going back 26yrs

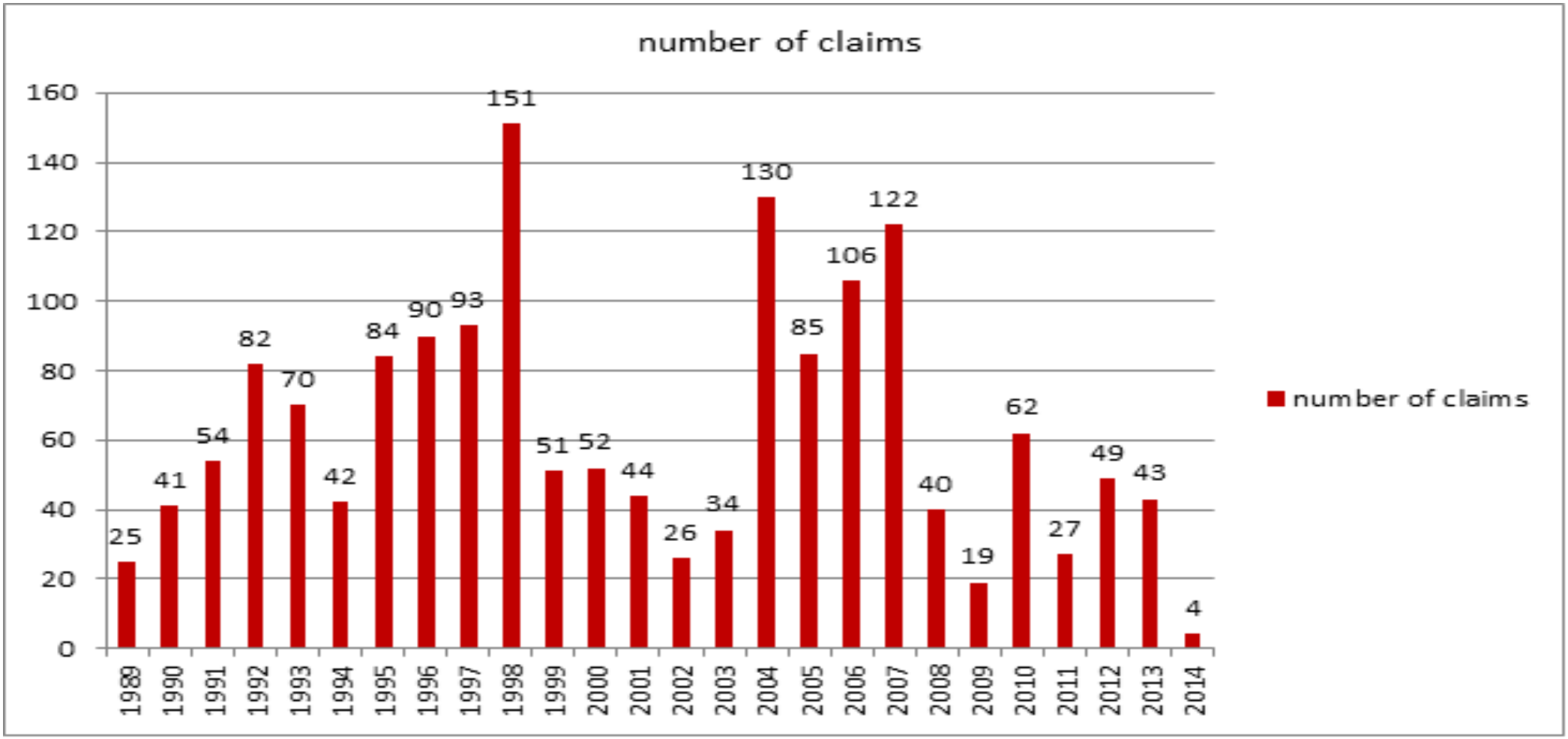
Information from the Clay Research Group organisation:



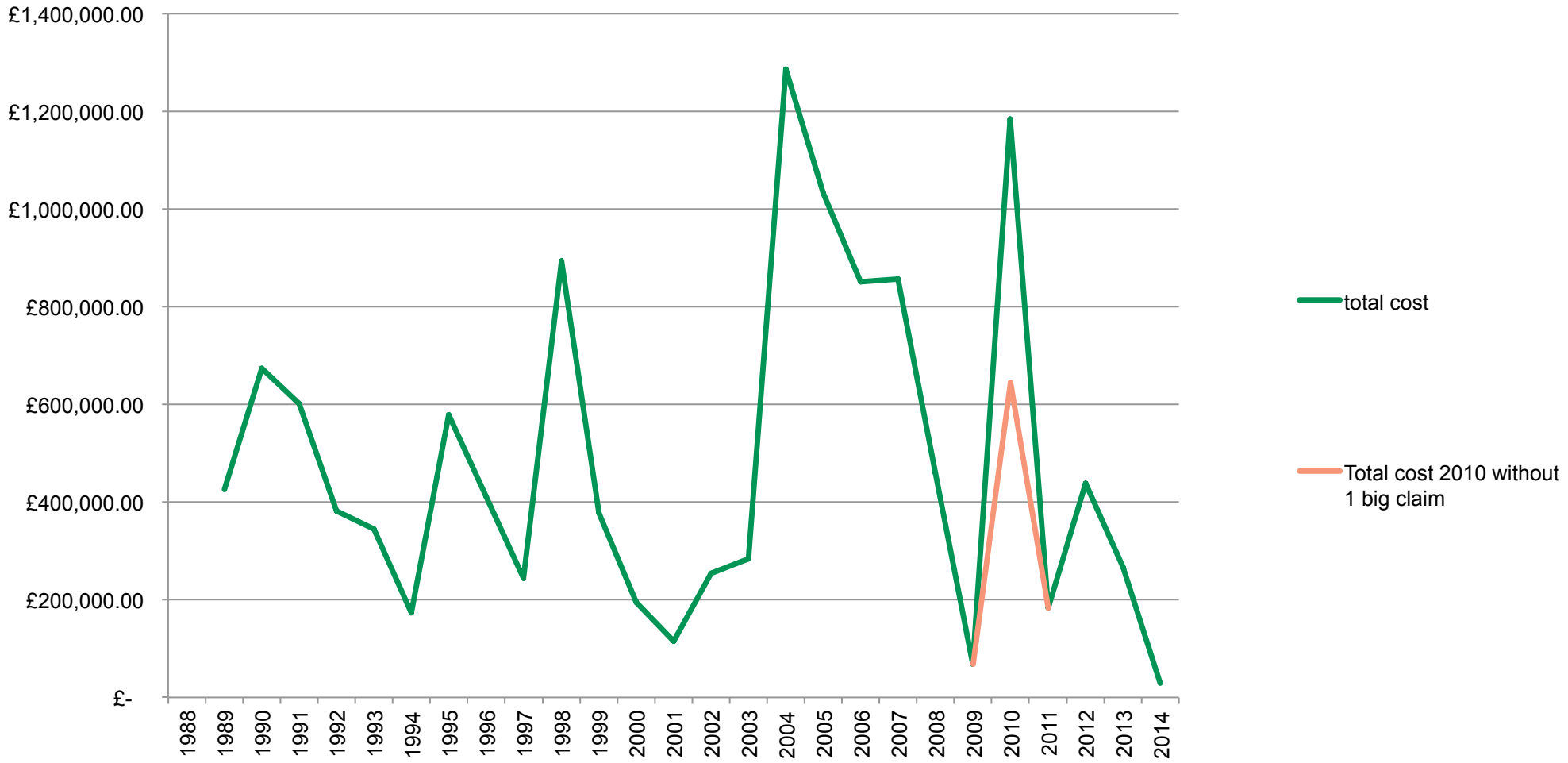
Budget profile 1988 to 2013:



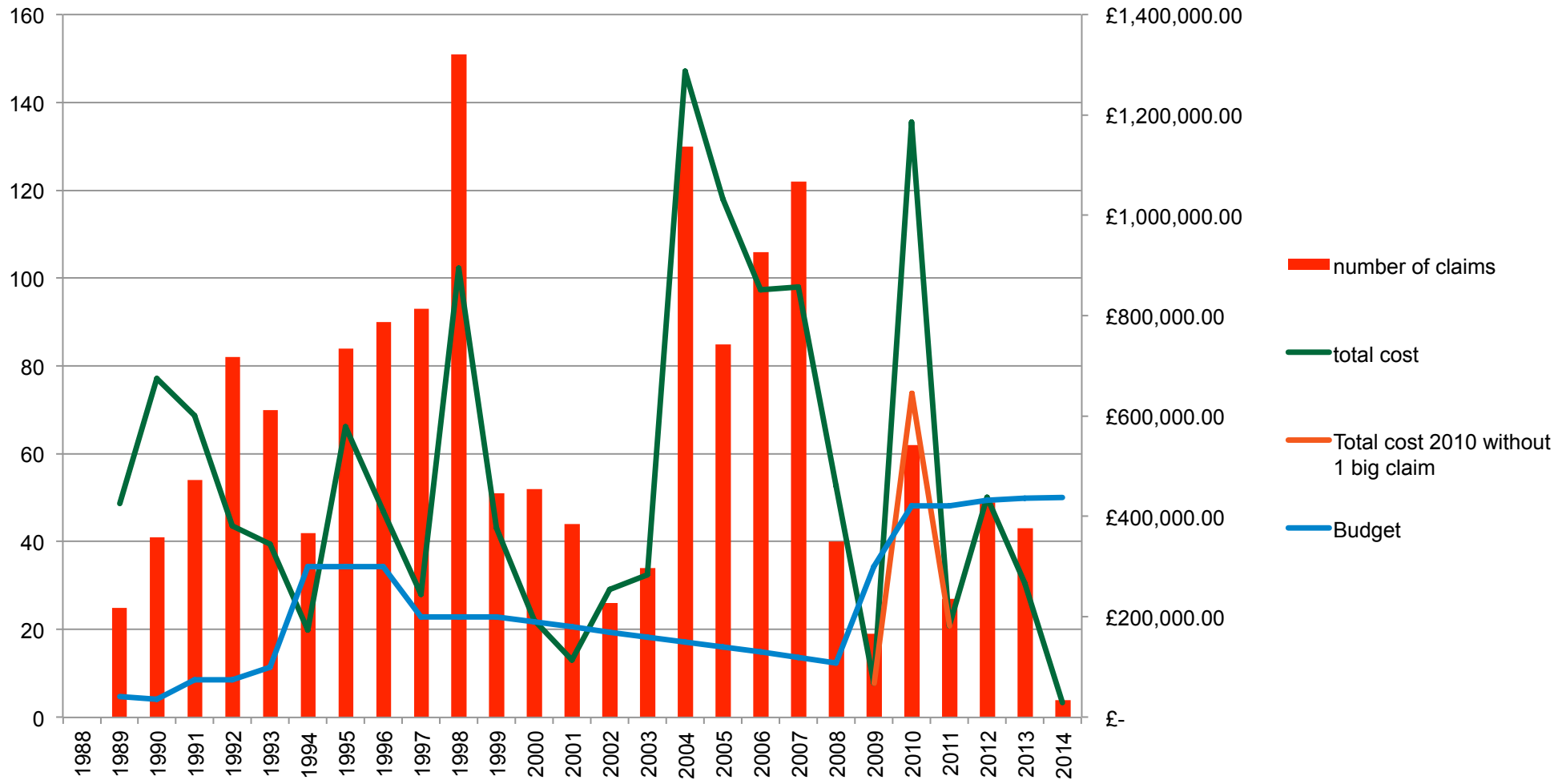
Claim numbers 1989 to 2013:



Claim costs 1988 to 2013:



Results: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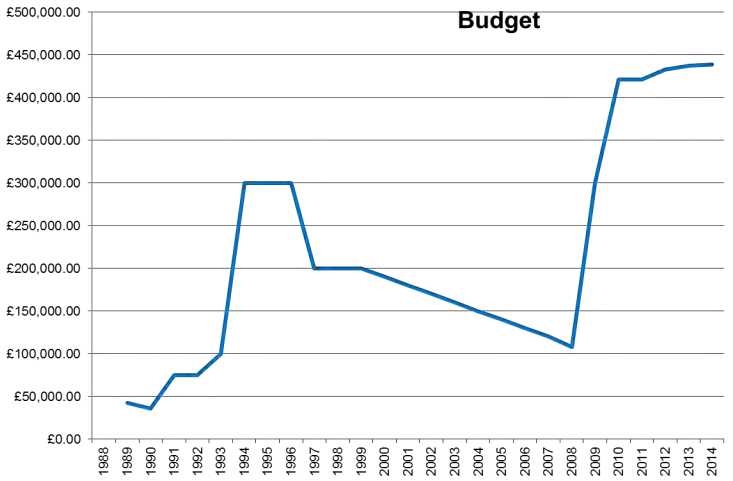
number of claims
total cost
Total cost 2010 without 1 big claim
Budget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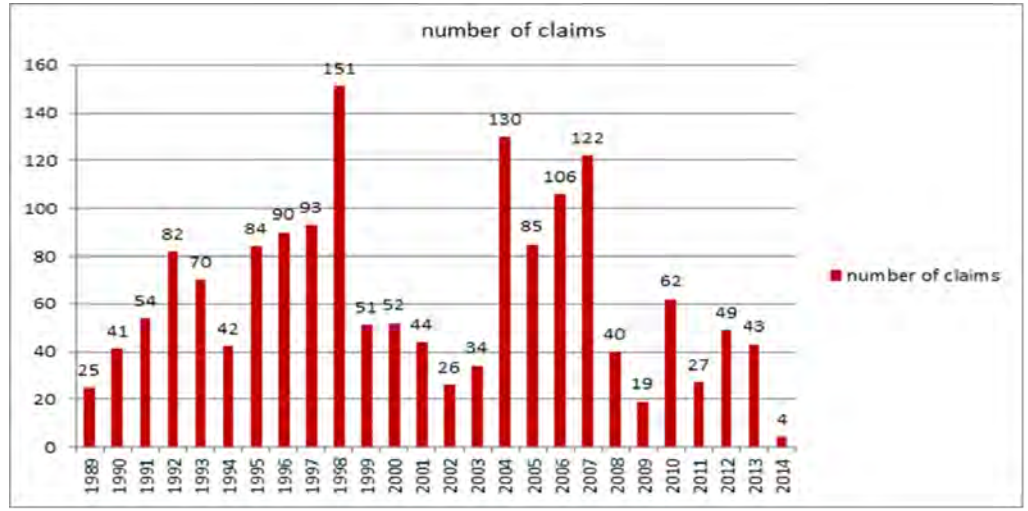
Budget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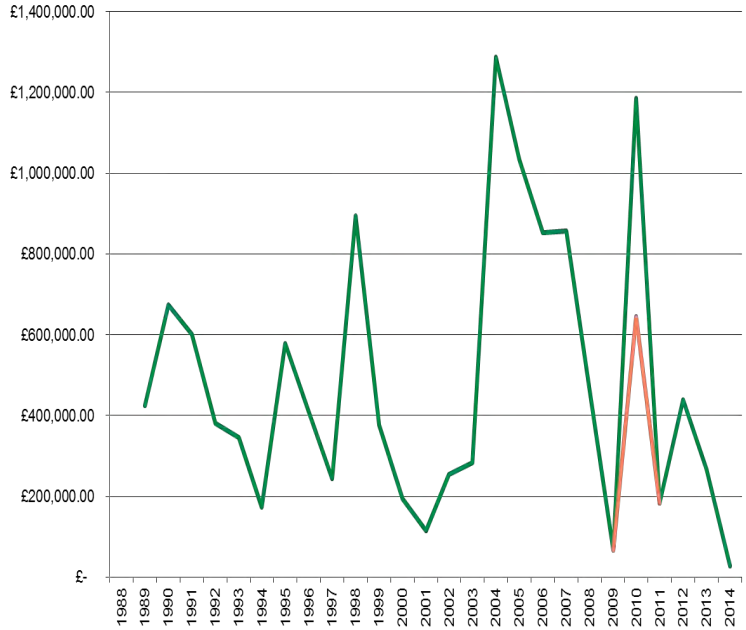
number of claims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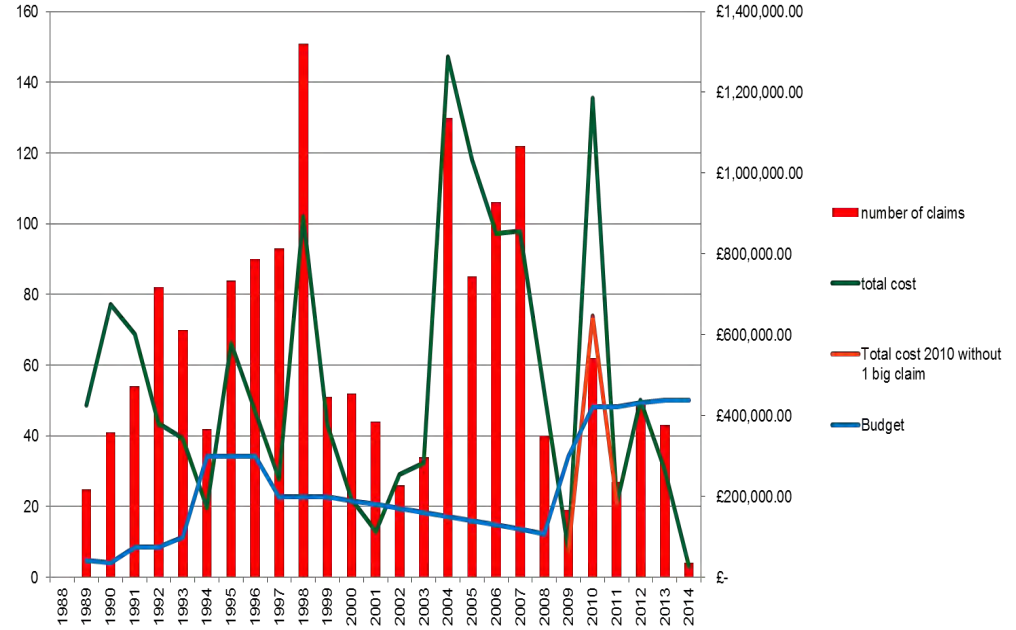
total cost
Total cost 2010 without 1 big claim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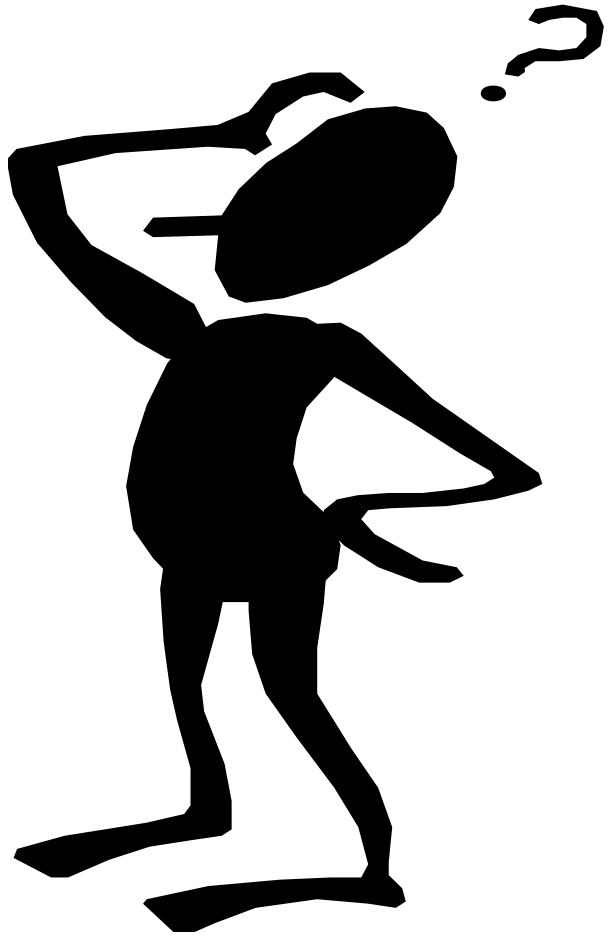
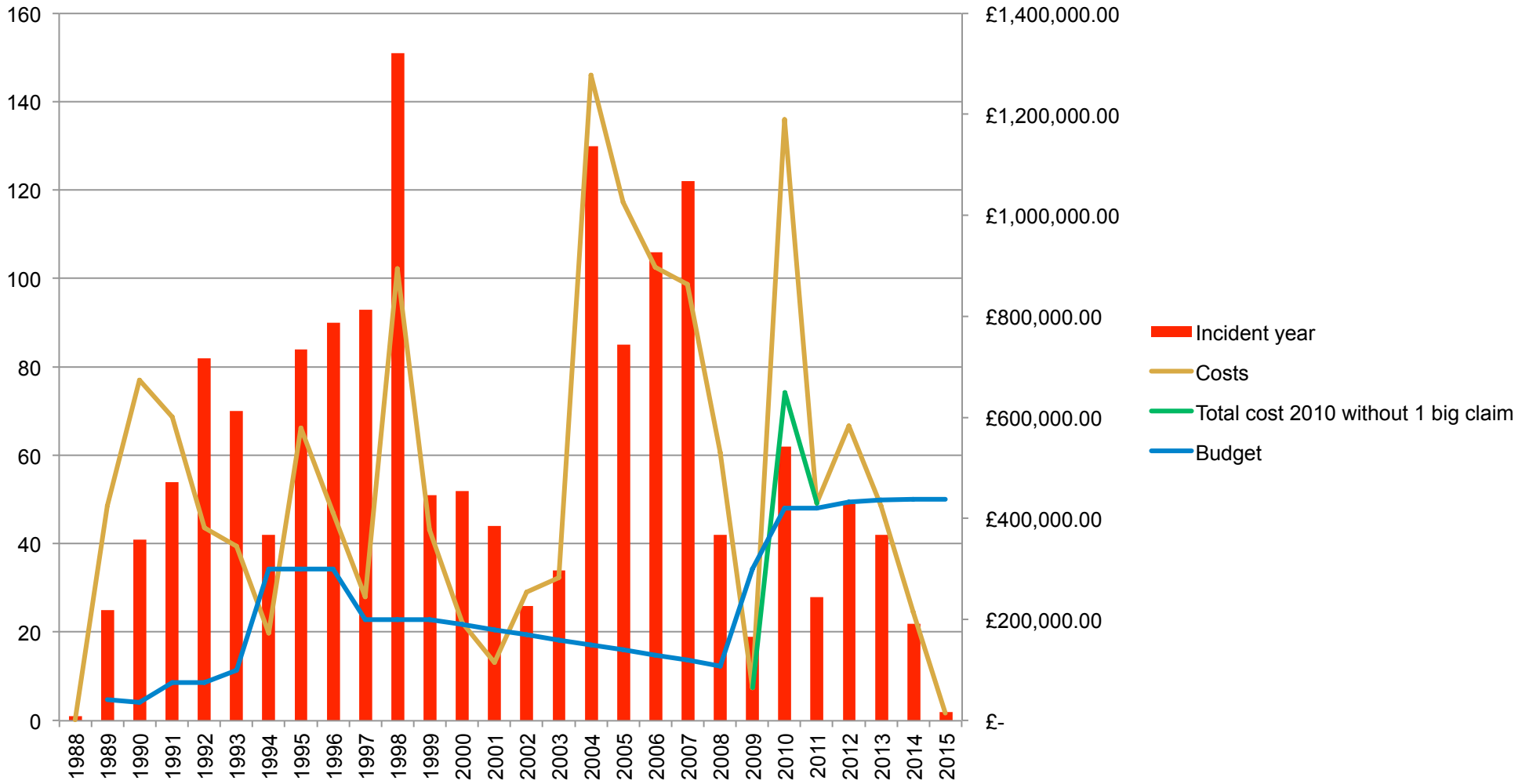
1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
number of claims
total cost
Total cost 2010 without 1 big claim
Budget

Reduction in street tree claim numbers & costs:

Time Period	No. of Claims	Cost of Claims
2002-2007	503	£4.6m
2008-2013	224	£2.5m

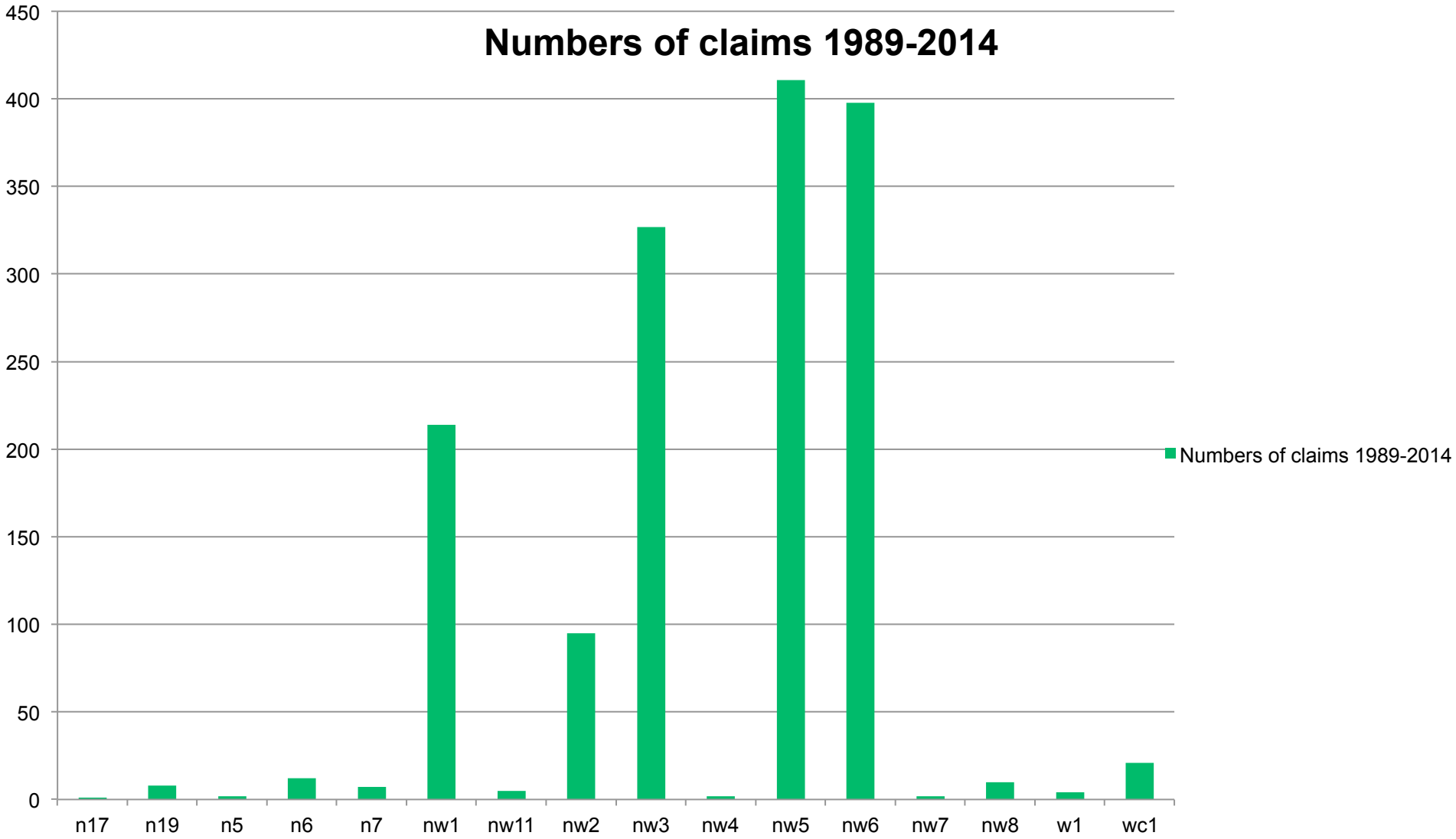


Updated graph with 2014 figures:



Analysis of street tree claim numbers by post code to ensure:

- Resources were being targeted in high claim post codes
- General maintenance regimes were up to date
- Increase the number of crown managed trees added to the 3yr cycle
- Increase numbers of trees added to the biennial pollarding programme


Numbers of claims 1989-2014
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nw11
nw2
nw3
nw4
nw5
nw6
nw7
nw8
w1
wc1
Numbers of claims 1989-2014

Analysis by post code led to proposing a street tree fell & replacement programme based on 3 target species of tree:

- Alder
- Raywood Ash
- Ailanthus

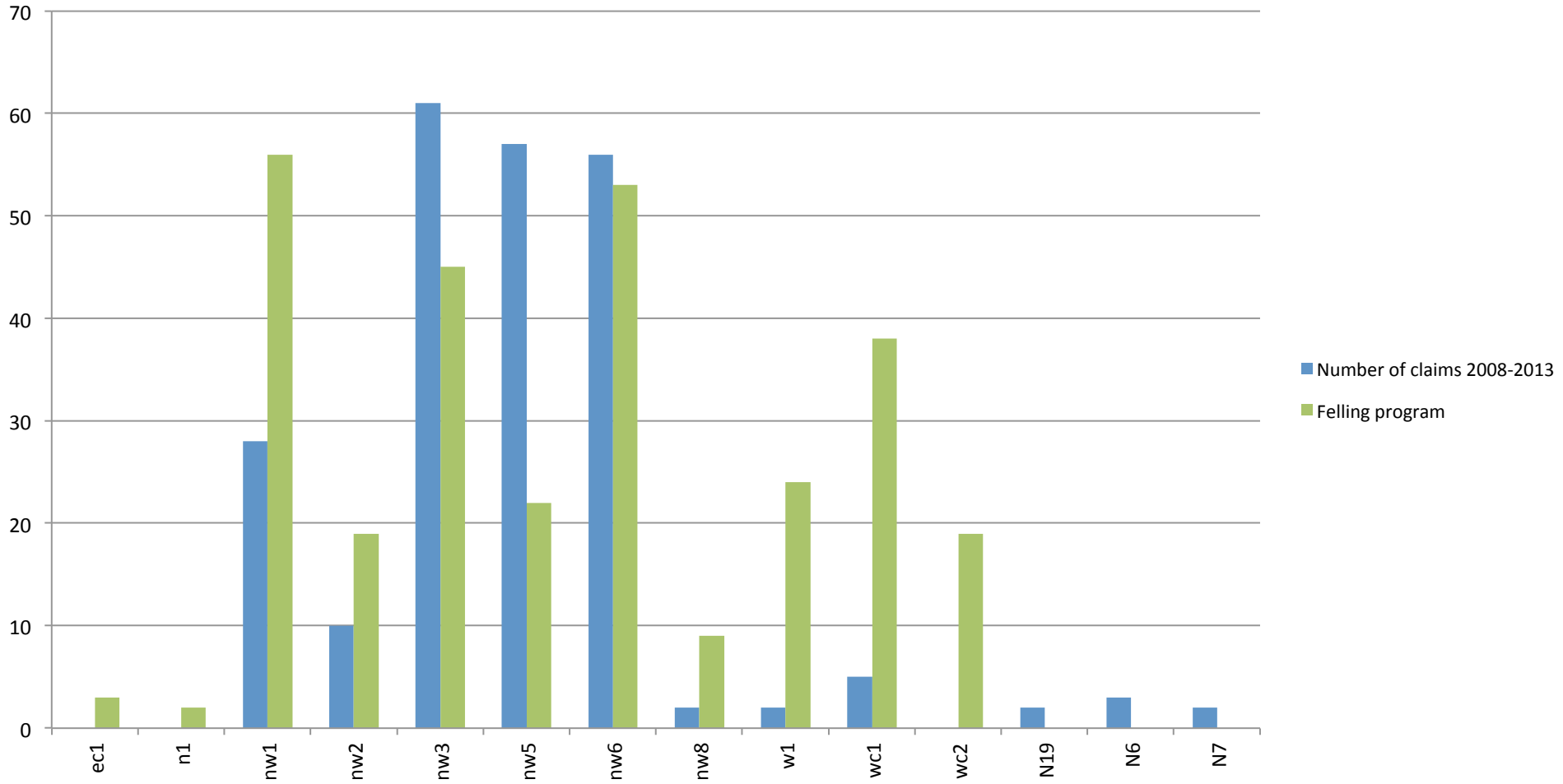
(***300 trees in total***)

(*Target trees chosen as they do not adapt well to biennial pollarding and are also frequently involved in claims*)

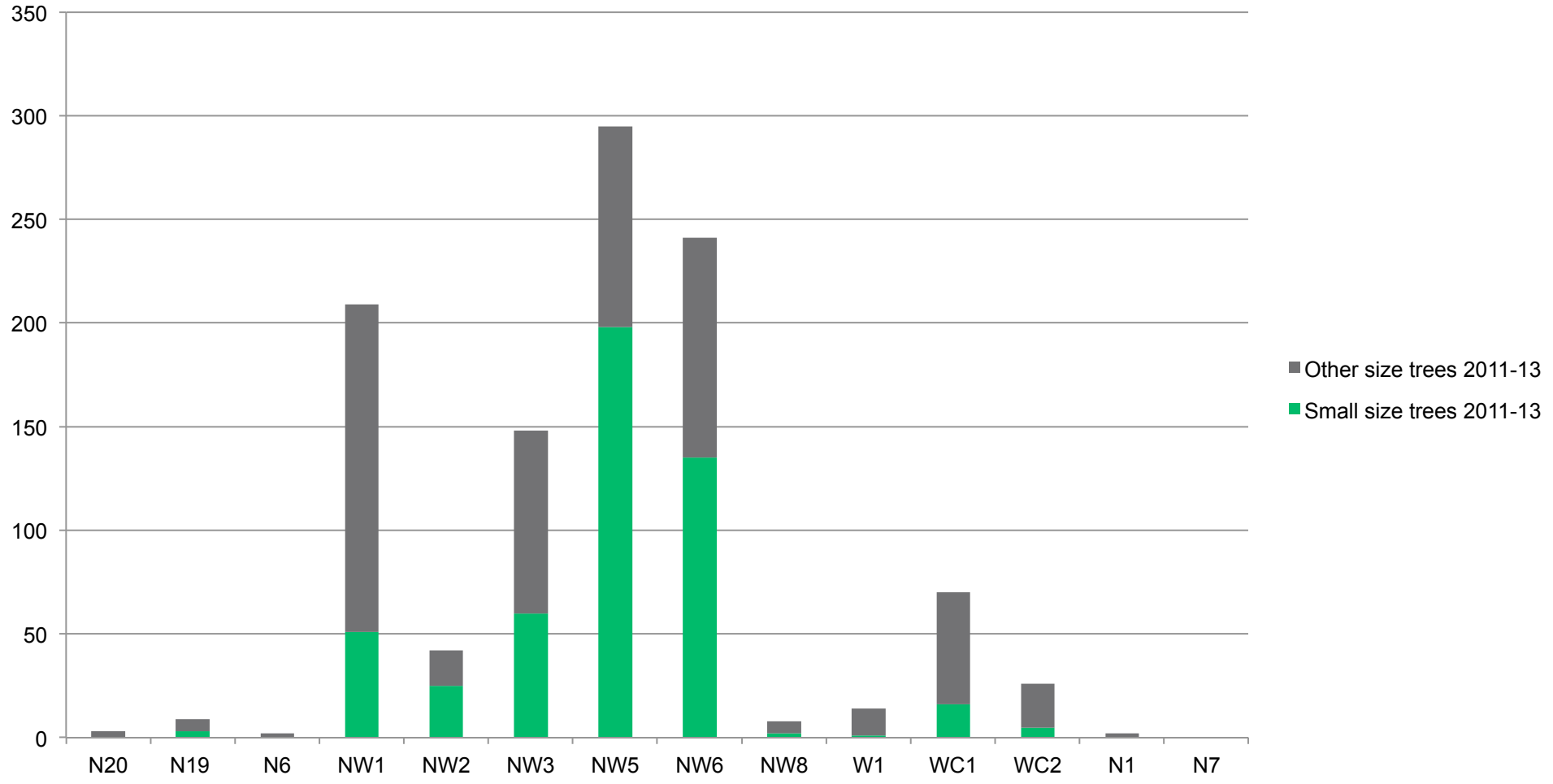
Raywood Ash

Alder

Felling & replacement programme base on target trees by post code:



‘Small’ tree planting in high claim post codes 2011 to 2013:



Examples of ‘small’ trees being planted:

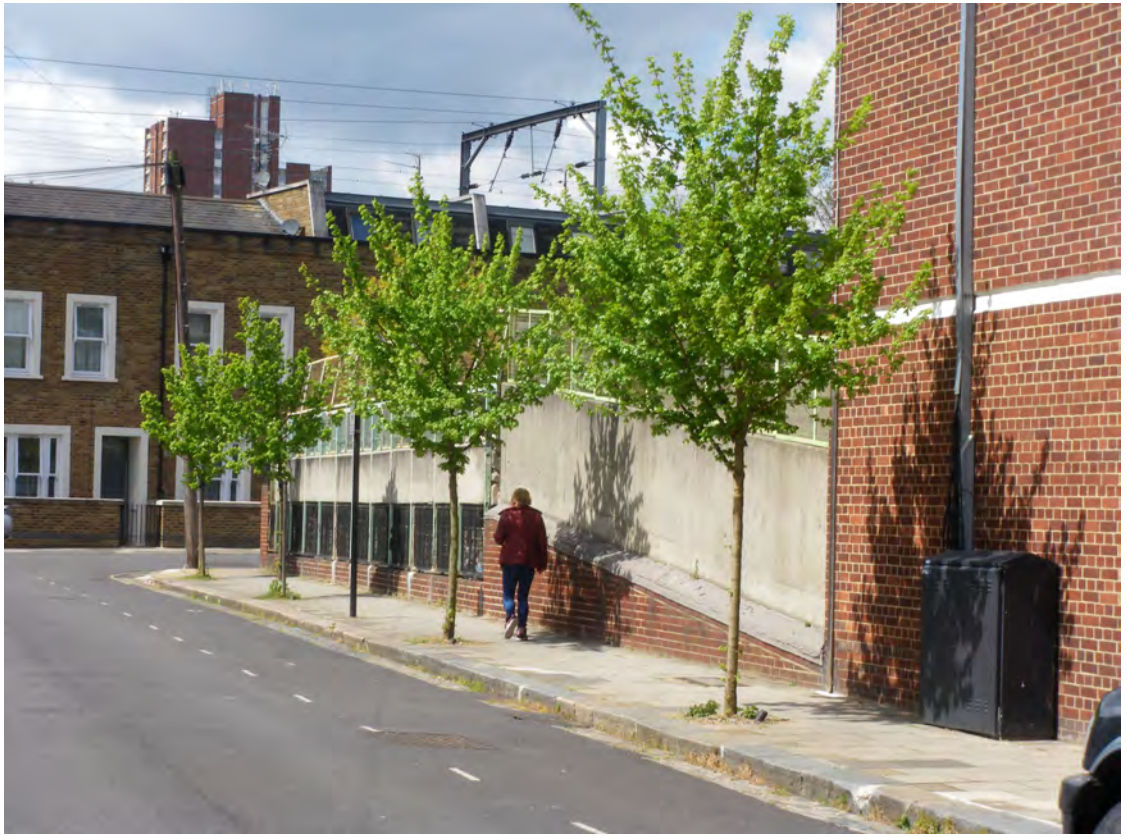
Liquidambar ‘Gum Ball’

Malus ‘Adirondack’

Prunus ‘Pandora’

Acer platanoides ‘Brilliantissimum’

Acer campestre 'Elsrijk'



Small Tree Species:

Very Small	Small	Small +	Small-Med
Acer pseudoplatanus 'Brilliantissimum'	*Prunus x subhirtella* 'Autumnalis'	*Malus floribunda*	*Prunus* 'Pandora'
Prunus fruticosa 'Globosum'	*Amelanchier sp.*	*Malus* 'Evereste'	*Sorbus* 'Joseph Rock'
Acer campestre 'Nanum'	*Amelanchier* 'Obelisk'		*Sorbus Hupehensis*
Photinia sp.	*Malus* 'Rudolf'		
Acer platanoides 'Globosum'	*Malus* 'Adirondack'		
Liquidamber styraciflua 'Gum Ball'			

‘Rightsizing’ Camden’s tree stock:

Photinia

Amelanchier

Cherry & Ash

Winter flowering cherry

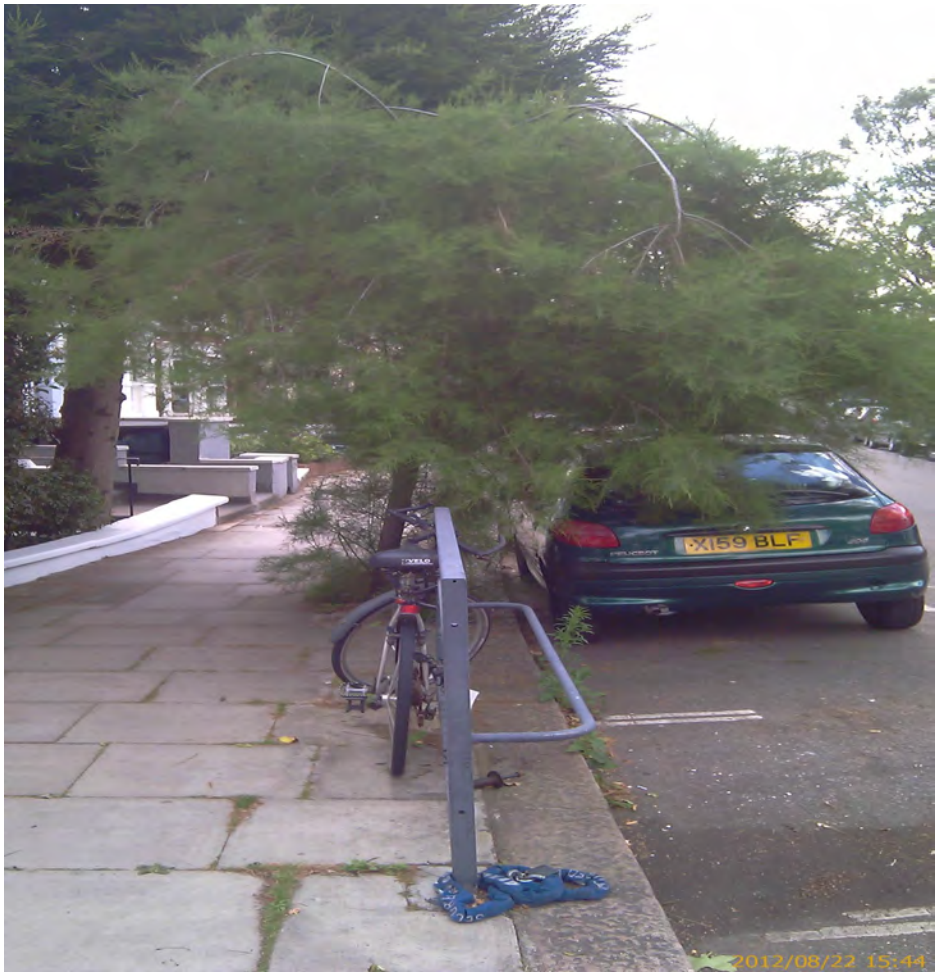
Whitebeam

Photinia

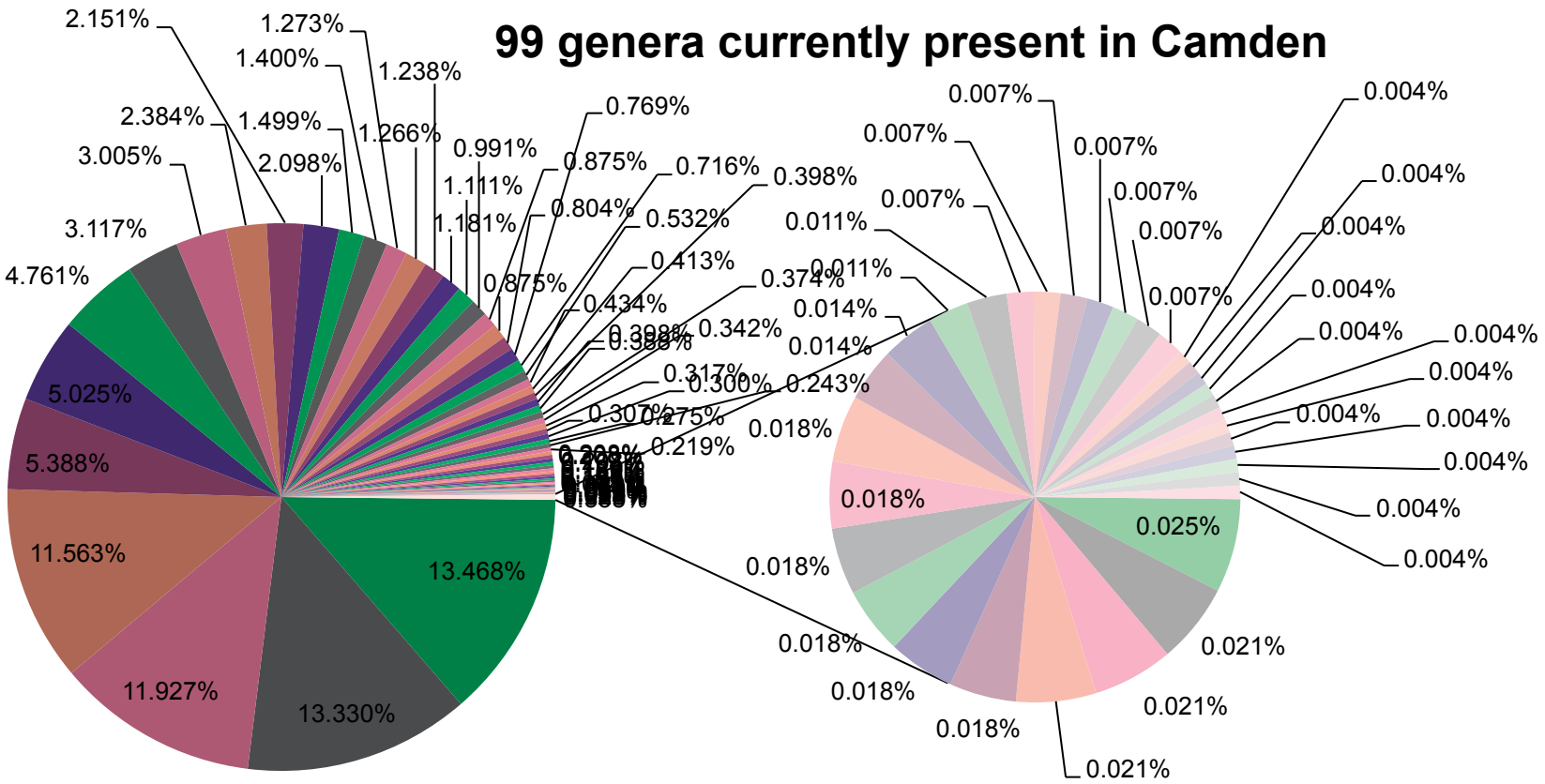
“It’s still a bit experimental!”

Ligustrum

Tamarix (*Largerstoemia & P. Globosa*)



Improving diversity:



Conclusion:

- Pruning/crown management does influence tree related subsidence claim numbers and costs.
- Reduction in street tree canopy cover and eco system services with the planting of small tree species
- Greater emphasis on planting large tree species ‘where appropriate’

Acknowledgements:

Dave Houghton and Riccardo Arnone

The End